

A PROPOSAL TO STABILIZE PLANT NAMES

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The essential points in botanical nomenclature are fixity of names and rejection of names which may cause error or "throw science into confusion" (Art. 4, International Rules of Botanical Nomenclature. Ed. 3. 1935). All systematic botanists should strive towards a more stable nomenclature, especially for the benefit of workers in other branches of plant science throughout the world, so that botany can make satisfactory progress (Art. 1).

THE PROBLEM

A serious obstacle to the goal of stability of names is the revival in recent years of many old, abandoned names. Some were so obscurely published that they were unknown to contemporary botanists and escaped notice of indexers. Other names were poorly described in the first place and are of doubtful application in the absence of type specimens. Except for the fact that under the Rules they retain priority from their original publication, these long-lost names are new names. However, as old names under the Rules, these names must be accepted, even if other names meanwhile have become established in usage. Also, these old names must be credited to their original authors, who scarcely deserve to be so honored now at this late date.

Four recent changes in names of trees of the United States will serve as examples. These old names upsetting existing nomenclature were not in Index Kewensis.

Abies nobilis A. Dietr. (Fl. Berlin 793. 1824), an obscure synonym and earlier homonym, was the basis for the rejection in 1940 of A. nobilis (Dougl.) Lindl. (Penny Cycl. 1:30. 1833), a name universally established in usage without synonyms. As the latter technically was invalid as a later homonym, it was renamed A. procera Rehd. (Rhodora 42: 522. 1940).

Juglans microcarpa Berland. in Berland. & Chovel (Diario Viage Comisión Límites Mier Terán 276. 1850). This briefly described name concealed in a Mexican diary of travels apparently was unknown to botanists until adopted by Johnston (Arnold Arboretum Jour. 25: 436. 1944) to replace the familiar name, J. rupestris Engelm. ex Torr. (in Sitgreaves, Rpt. Exped. Zuni Colo. Rivers 171, pl. 15. 1853), which was without known synonyms.

Ulmus rubra Muhl. (Amer. Phil. Soc. Trans. 3: 165. 1793). This name in a local flora list, proposed merely as a new name

without description for U. americana Marsh. (Arbustr. Amer. 156. 1785), not L. (Sp. Pl. 226. 1753), was revived in 1945, after 152 years of dormancy, by Fernald (Rhodora 47: 203-204. 1945). The name in universal use which now must be rejected as a synonym is U. fulva Michx. (Fl. Bor.-Amer. 1: 172. 1803).

Cotinus obovatus Raf. (Autikon Botanikon 82. 1840), briefly described in a rare work of Rafinesque, apparently was not again accepted until a facsimile reprint of this rare book was published in 1941. The established name, C. americanus Nutt. (No. Amer. Sylva 3: 1, pl. 81. 1849), thus was technically invalid as a synonym. Accordingly, C. obovatus Raf. was adopted by Little (Okla. Acad. Sci. Proc. 23: 21-23. 1943).

Other illustrations will be familiar to readers. Changes such as these, not uncommon in current taxonomic publications, not only do no good but create confusion in violation of Art. 4. As a result, taxonomy is injured in its relations with other branches of botany, whose workers do not understand how continual changes in names can constitute progress towards stability.

The problem, therefore, is to find a way to prohibit or lessen the revival of old, abandoned names.

POSSIBLE SOLUTIONS

Several solutions of the problem may be considered. Perhaps the simplest would be the establishment of a code of ethics among taxonomists, a gentlemen's agreement not to take up these old names. Possibly Art. 5, to follow established custom in the absence of a rule, might be stretched to cover these cases. However, the prevailing custom seems to be the opposite, to bring to light all these old names as soon as possible. A few botanists say that when they run across an old name that might upset the accepted nomenclature, they put the book back on the shelf. This admirable practice, though, merely postpones the upheaval and permits it to become greater, for sooner or later another worker with different ideas probably will discover the same name in the same book. Then, the apparent oversight of the old name by the first monographer may be interpreted by the second as evidence of lack of thoroughness in bibliographic work. Seldom do new combinations follow revival of old names. The reward for the discovery is the example of careful bibliographic work and perhaps a sense of importance in causing the change. As the temptation to revive an old name is great, voluntary agreement seems unlikely as a solution.

The problem may become progressively less important in the future, as more and more old names are adopted, because, after all, the number of different rare books printed in the past from 1753 to date does have a limit which eventually will be

approached. On the other hand, publication of obscure scientific books and journals continues.

Good modern library facilities, including bibliographic, abstract, and indexing services and wide circulation of publications tend to prevent recently published names from being overlooked. However, the enormously increased quantity of botanical publications in recent years operates to offset the library aids.

Art. 38, requiring Latin diagnoses for names of new groups of plants published after Jan. 1, 1935, probably will be of great value in the future in making illegitimate various obscurely, inadequately, and incidentally published names otherwise valid.

Other solutions involve exception to the fundamental principle of priority (Art. 16). During certain times in the past, retention of names lacking priority was accomplished through the influence of leading workers. In some ways priority seems to conflict with stability. That priority is not sacred is shown by the long list of nomina generica conservanda adopted under Art. 21 and without which nomenclature would be chaotic and exceedingly unstable. Under this rule any rediscovered old generic names which would cause disadvantageous changes can be formally rejected.

Conservation of specific names in exception to priority has been rejected decisively at previous Botanical Congresses and is not a likely solution. It does not seem feasible to make a special exception in the Rules for a single specific name, when it is simpler to retain the older name. Rules affecting names in general published under similar conditions are less complex in operation than rules permitting special exceptions and requiring action by an International Botanical Congress upon each name.

One attempt toward stability was the adoption at the last Congress in 1935 of a motion for a committee to draw up a list of economic plants under the Rules and that this list remain in use for a period of ten years. Though the list was not prepared, a list of standard generic names was issued. In one country an official tree list including a few invalid but well-known names was adopted by foresters.

Proposals have been made to amend the Rules to reject names in certain old or rare works. For example, at the last Congress a proposal to reject names in a list of old works not using binomials was referred to a committee for study. However, a rule containing a list of books would be of questionable value and would not eliminate confusion, because there would still be other and rarer books not covered.

A radical suggestion has been made to establish new starting points of priority, such as modern monographs. Even the Rules (Art. 20) permitted later starting points than 1753 for a few

groups. Perhaps in the distant future, when nomenclature becomes extremely complicated, this suggestion may be adopted by necessity.

Another but rather discouraging possible solution is that, if world peace is not established, the atomic bomb and global warfare might lead to the destruction of civilization, including the botanists with their books, herbaria, and Rules. Then, at some later date there might arise an altogether different system of botanical nomenclature with a new set of rules, new starting date, and entirely new names.

THE PROPOSAL

I believe an addition to the Rules is desirable to help maintain stability by prohibiting the revival of old, abandoned names. An informal note that I favor "amending the rules to disallow priority changes due to later discoveries in obscure books 100 years or more old" has been published (W. A. Dayton, Jour. Forestry 41: 373. 1943). My proposed addition to the International Rules of Botanical Nomenclature follows:

Article 63 bis. A name (of a taxonomic group) more than one hundred years old but which has not been accepted as valid, so far as known, by any subsequent author (exclusive of indexes of nomenclature) within the first one hundred years after publication (or by Jan. 1, 1950, in the case of a name published before 1850) must be rejected as a nomen extinctum if it is an earlier synonym or earlier homonym of any name otherwise valid and accepted in use.

In other words, an extinct name, or nomen extinctum, is a name which was accepted by no other authors within the first hundred years after publication but which during this time has been replaced by another name or has been used for another group. As both the old, unused name and its synonym or homonym cannot be retained in use, the old name, upon its discovery is retained in accord with the principle of fixity of names.

Though this proposal would apply to all taxonomic groups, its chief value would be for names of species and their subdivisions. Retention of generic names in exception to strict priority as nomina conservanda has been provided under Art. 21.

Under this proposal, acceptance by a second author within a century automatically guarantees a name its priority. However, mere listing of the name as a synonym by later authors would not constitute acceptance. Neither publication of the name in a second work by the original author nor reprint of the original work, such as a facsimile edition of a rare book, would count. It has seemed best to exclude indexes of nomenclature as not constituting acceptance of the name by a second author.

Some indexes do not attempt to pass upon the validity or synonymy of their names. Many overlooked specific names were omitted from Index Kewensis, though upon discovery afterwards were included in the Supplements. Also, some names of doubtful identity are listed by indexes as a bibliographic record.

The year 1950, when this proposal would become effective, if adopted as a rule, has been set as the starting date to apply to all names more than one hundred years old; that is, names published between 1753 and 1850. Without this starting date the proposal would be retroactive (Art. 2) to names becoming one hundred years old in 1853 and successive years, and some names restored after an interval of more than one hundred years but now already accepted in usage would be invalidated. In the future, names published after 1850 would automatically be rejected upon remaining unknown and unaccepted by a second author for a century. For example, an obscure name published in the year 1868 would retain its validity and priority if discovered and used by a second author before 1968. If not discovered until after 1968, this name would be rejected provided it had a synonym or homonym.

The final clause, "if it is an earlier synonym or earlier homonym of any name otherwise valid and accepted in use," is essential. When I first discussed my proposal, one botanist protested that a few names of taxonomic groups of small size or of restricted geographic distribution might pass a century known but dormant because later botanists had had no occasion to refer to them. To invalidate these dormant names without synonyms would leave their taxonomic groups nameless. So, if it has acquired neither a synonym nor a homonym, the old name retains its priority and is not rejected as an extinct name.

The proposed rule would work like this. A systematic botanist in the course of his work discovers an obscure name in a rare book more than a hundred years old and from the description identifies it with a later name in use. Or, he recalls that a later homonym is in use. A search through pertinent literature fails to disclose acceptance of this old name by another author. Thus, the old name clearly must be rejected as a romen extinctum. The discoverer then publishes a taxonomic note formally rejecting the name and giving himself due credit. Thus, one more name in use is retained, and one or two confusing changes in names are avoided.

There would also be broader effects. This proposal would automatically invalidate many known names of doubtful identity, especially those inadequately described and without type specimens, if afterwards they are ever found synonymous with later names in use. For example, future workers need not spend time on the names of Rafinesque which have not been taken up by another author, probably several thousand names. This proposal would simplify the nomenclature of varieties by preventing ac-

ceptance of many old, briefly described varieties. Otherwise, these old varietal names, which generally are not indexed, may cause confusion as the taxonomists of the future turn more to the recognition of subdivisions of species.

To a minor extent, this proposal would contradict Art. 61, which rejects later homonyms but which was not adopted until 1930. A later homonym would be legitimate in those infrequent cases not already corrected where the earlier homonym is more than one hundred years old and has not been adopted by a second author. Thus, some later homonyms invalidated in 1930 by Art. 61 but not yet renamed could be retained in usage.

The application of Art. 21, which provides for conserved names, would be simplified by this proposal. Some very old generic names, particularly earlier homonyms not yet formally made nomina rejicienda, would automatically be rejected as nomina extincta. There would be no need to act upon these names individually and add the later names to the already lengthy list of nomina conservanda. The following examples of generic names of trees proposed by me for conservation (Madroño 7: 240-251. 1944) could be retained without special action under this proposal: Cedrus Trew, Condalia Cav., Rhacomia L., Bucida L., and Halesia Ellis.

The suggested time limit of one hundred years could be lowered, if desired. For example, Art. 21 suggests that in the selection of nomina conservanda preference be given to names which have come into general use in the fifty years following their publication.

In some instances it may be difficult to determine whether the old name has been taken up by a second author. There is the possibility that a name once rejected as a nomen extinctum would afterwards be found in a later work and would have to be adopted. Also, it may not always be clear whether an author mentioning a name accepts it as valid. However, all names not conserved are subject to some risk of change.

This proposed addition to the International Rules has been submitted to Dr. W. H. Camp, Chairman, Committee on Nomenclature, American Society of Plant Taxonomists, New York Botanical Garden, New York 58, N. Y. The Committee is considering proposals for amendment to the Rules to be officially sponsored by the Society at the next International Botanical Congress in 1950.

A discussion of this proposal is presented here, in order that interested botanists may consider it. Perhaps improvements in the proposal and its phraseology will be suggested and appropriate examples will be offered. Whether a majority of systematic botanists would favor adding to the complicated Rules a proposal of this kind to lessen the revival of old, abandoned names is not known.